

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A device for receiving a fluid sample, which is configured so as to form an electrode, in particular a counterelectrode or a working electrode, in an electrochemical cell, the device comprising an end part having at least one cavity which opens ~~to the~~ to an exterior via an opening, said cavity being equipped with a base, wherein said end part exhibits a first electrically insulating hydrophobic zone which is adjacent to the cavity opening and a second electrically conducting hydrophilic zone which is adjacent to ~~the~~ said first electrically insulating hydrophobic zone and which at least partially covers the base of the cavity such that, when said end part is immersed in ~~said a~~ fluid and then emerges therefrom, said cavity retains part of said fluid by means of capillary ~~action~~ action, a cavity depth/opening diameter ratio varying in a range from 0.01 to 1.

2. (Currently Amended) The device as claimed in claim 1, wherein the first electrically insulating hydrophobic nature zone is provided ~~by a~~ with a hydrophobic coating, said hydrophobic coating being in particular deposited on said end part, at least at the periphery of said opening.

3. (Currently Amended) The device as claimed in claim 2, wherein the hydrophobic zone extends at least one of (1) into the cavity, ~~optionally to the base thereof,~~ without completely covering the ~~base, and/or extends base and (2)~~ base and (2) onto an outer wall ~~(10)~~ of the device.

4. (Previously Presented) The device as claimed in claim 1, wherein the hydrophilic zone is made of a metallic or nonmetallic, electrically conducting material.

5. (Currently Amended) The device as claimed in claim 1, wherein the end part comprises a body, which is at least one of made of an electrically conducting material ~~and/or~~ ~~is and~~ coated with a coating of an electrically conducting material, the cavity being at least partially formed by ~~this~~ the body.

6. (Currently Amended) The device as claimed in claim 1, wherein the cavity has at least one of the following characteristics:

- said cavity has a volume sufficient to retain a volume of fluid sample in the range of from 0.1 picoliter to 1 μ l, and ~~in particular from 1 to 50 nl,~~
- said cavity has a depth of 5 μ m to ~~200 μ m,~~ 200 μ m.
- ~~— the cavity depth/opening diameter ratio can vary in the range of from 0.01 to 1,~~
~~for example from 0.1 to 1,~~
- ~~— the cavity can have a circular or polygonal transverse cross section,~~
- ~~— the cavity can have a substantially cylindrical or conical shape, or have a~~
~~cylindrical wall extended by means of a conical base.~~

7. (Previously Presented) The device as claimed in claim 1, wherein said device comprises a rod equipped, on the side of the end part, with a sleeve that has a protruding part which extends beyond the end of the rod.

8. (Original) The device as claimed in claim 7, wherein said sleeve is made of a hydrophobic material.

9. (Currently Amended) The device as claimed in claim 7, wherein said sleeve is made of a conducting material, and at least the end of the protruding part is coated with a layer of hydrophobic ~~material, preferably electrically insulating material.~~

10. (Currently Amended) The device as claimed in claim 1, further comprising ~~wherein it comprises~~ a damping element for reducing the impacts that may affect said device

when ~~it comes~~ the device comes into contact via its end part with a depositing zone on a solid substrate.

11. (Original) The device as claimed in claim 10, wherein said damping element is a spring.

12. (Currently Amended) The device as claimed in claim 1, wherein ~~in which~~ said device comprises a rod.

13. (Original) The device as claimed in claim 12, wherein said rod is made of a material capable of elastic deformation.

14. (Currently Amended) The device as claimed in claim 13, wherein said rod comprises at least one part ~~in the~~ in a shape of an ~~of a~~ S which plays ~~the role~~ a role of a damping element.

15. (Original) The device as claimed in claim 11, wherein said rod slides in another part in order to damp the contact with the substrate.

16. (Withdrawn-Currently Amended) A process for sampling and transporting a fluid sample using a device as defined in claim 1, comprising ~~the steps~~ steps ~~consisting in~~ of:

a) immersing the end part comprising said cavity in a container containing a fluid to be sampled, and then removing ~~it therefrom~~, the end part from the container; and

b) bringing said end part into contact with a solid substrate.

17. (Withdrawn) The process as claimed in claim 16, wherein the end part is subsequently moved away from the substrate, so as to leave, as a deposit on the substrate, a drop of fluid sample.

18. (Withdrawn) The process as claimed in claim 16, in which steps a) and b) are repeated as many times as necessary for depositing a plurality of identical or different fluid

samples on the solid substrate, so as to form, on said substrate, deposits in the form of a matrix array.

19. (Withdrawn) The process as claimed in claim 16, wherein the fluid sample contains biological molecules or substances to be deposited on the substrate.

20. (Withdrawn) The process as claimed in claim 16, wherein said fluid contains an electrolyte and, optionally, other compounds in suspension.

21. (Withdrawn-Currently Amended) The process as claimed in claim 20, wherein an electrochemical-type analysis of the ~~solution or~~ suspension sampled is carried out.

22. (Withdrawn) The process as claimed in claim 20, wherein a measurement of potential between said end part and said substrate, by means of the sample, is carried out.

23. (Withdrawn) The process as claimed in claim 20, wherein the device comprises a body made of a conducting material, and said end part is equipped with an insulating coating, and said substrate is made of a conducting material, and in which, after step b), an electric current is passed between said end part and said substrate, by means of the fluid sample.

24. (Withdrawn-Currently Amended) The process as claimed in claim 21, wherein said fluid contains a monomer that is electropolymerizable by oxidation, ~~and the~~ and an electric current is passed between said body and the substrate, bringing said substrate to a potential required for polymer formation.

25. (Withdrawn-Currently Amended) A process for forming an electrochemical cell, the process comprising the following steps:

- providing a receiving device which comprises an end part having at least one cavity which opens to the exterior via an opening, said cavity being equipped with a base, this end part exhibiting a first electrically insulating hydrophobic zone which is adjacent to the cavity opening and a second electrically conducting hydrophilic zone which is adjacent

to the first zone and which at least partially covers the base of the cavity, a cavity depth/opening diameter ratio varying in a range from 0.01 to 1,

- providing a receiving ~~surface, in particular a substrate,~~ surface having at least one conducting zone,
- sampling a fluid sample by means of the receiving device,
- bringing the end part of the receiving device into contact with the conducting zone of the receiving surface, the first hydrophobic zone being configured so as to electrically insulate the second conducting hydrophilic zone from the conducting zone of the receiving surface.

26. (Withdrawn-Currently Amended) A process comprising the following steps:

- providing a receiving device which comprises an end part having at least one cavity which opens to the exterior via an opening, said cavity being equipped with a base, this end part exhibiting a first electrically insulating hydrophobic zone which is adjacent to the cavity opening and a second electrically conducting hydrophilic zone which is adjacent to the first zone and which at least partially covers the base of the cavity, a cavity depth/opening diameter ratio varying in a range from 0.01 to 1,

- providing a receiving ~~surface, in particular a substrate,~~ surface having at least one conducting zone,
- sampling a fluid sample by means of the receiving device,
- bringing the end part of the receiving device into contact with the conducting zone of the receiving surface, the first hydrophobic zone being configured so as to electrically insulate the second conducting hydrophilic zone from the conducting zone of the receiving surface,
- establishing an electric current between the hydrophilic zone of the receiving device and the conducting zone of the ~~substrate~~ receiving surface or measuring an

electrical ~~parameter, for example a potential difference, parameter~~ between the conducting zone of the receiving device and the conducting zone of the receiving ~~support~~ surface.

27. (Withdrawn-Currently Amended) The process as claimed in claim 26, comprising the following step:

- establishing an electric ~~current, in particular a pulsed current, current~~ between the hydrophilic zone of the receiving device and the conducting zone of the ~~substrate~~ receiving surface in order to polymerize a substance contained in the cavity of the receiving device.

28. (Withdrawn-Currently Amended) The process as claimed in claim 26, further comprising the following steps:

- measuring an electrical parameter between the conducting zone of the receiving device and the conducting surface, for example a steel sheet;
- repeating the preceding step in order to carry out, for the conducting surface, a mapping relating to a physical or chemical characteristic, for example an oxidation state, using the measurements obtained.

29. (New) The device as claimed in claim 4, wherein the electrically conducting material is chosen from steel, titanium, platinum, gold, silver, graphite and carbon fibers.

30. (New) An electrochemical cell comprising a device as claimed in claim 1.

31. (New) The device as claimed in claim 6, wherein the cavity has a volume sufficient to retain a volume of fluid sample specifically in the range from 1 to 50 nl.

32. (New) The device as claimed in claim 6, wherein the cavity has a circular or polygonal transverse cross section.

33. (New) The device as claimed in claim 6, wherein the cavity has a substantially cylindrical or conical shape, or has a cylindrical wall extended by means of a conical base.